



**Power System
Module - PSM**

7856.003	7856.016
7856.005	7856.020
7856.006	7856.043
7856.008	7856.321
7856.010	7856.323
7856.015	

Assembly and operating instructions

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1. Documentation Notes

The audience for this guide is the technical specialists familiar with the assembly, installation and operation of the Rittal PSM.

- You should read this operating guide prior to the commissioning and store the guide so it is readily accessible for subsequent use.

Rittal cannot accept any liability for damage and operational malfunctions that result from the non-observance of this guide.

1.1. Retention of the documents

This guide and all associated documents are part of the product. They must be given to the operator of the unit and must be stored so they are available when needed.

1.2. Used symbols

The following safety and other notes are used in this guide:

Symbol for a handling instruction:

- This bullet point indicates that you should perform an action.

Safety and other notes:



Danger!

Immediate danger to life and limb!



Warning!

Possible danger for the product and the environment!



Note!

Useful information and special features.

2. Safety Notes

Observe the subsequent general safety notes for the installation and commissioning of the unit:

- Assembly and installation of the Rittal PSM, in particular for wiring the enclosures with mains power, may be performed only by a trained electrician. Other tasks associated with the Rittal PSM, such as the assembly and installation of system components with tested standard connectors, and the operation and configuration of the Rittal PSM may be performed only by instructed personnel.
- Observe the valid regulations for the electrical installation for the country in which the unit is installed and operated, and the national regulations for accident prevention. Also observe any company-internal regulations (work, operating and safety regulations).
- Prior to working at the Rittal PSM system, it must be disconnected from the power supply and protected against being switched on again.
- An electrical test must be performed after the completion of the assembly, installation and maintenance work! All protective conductor terminals and the voltages at all connection plugs, and at each individual module slot must be checked.
- Use only genuine or recommended parts and accessories (see Chapter 15). The use of other parts can void the liability for any resulting consequences.
- Do not make any changes to the Rittal PSM that are not described in this guide or in the associated guides.
- The operational safety of the unit is guaranteed only for its approved use. The limit values stated in the technical specifications (see Chapter 16) may not be exceeded under any circumstances. In particular, this applies to the permitted ambient temperature range and to the permitted IP protection category. When used with a higher required IP protection category, the Rittal PSM must be installed

in a housing or enclosure with a higher IP protection category.

- Operation of the Rittal PSM system in direct contact with water, aggressive media, or inflammable gases and fumes is prohibited.
- In addition to these general safety notes, also observe any special safety notes listed for the specific tasks in the individual sections.
- The strain relief for the connection cable must be made in the immediate vicinity of the connection plug of the PSM bus bar. If the strain relief bracket cannot be attached to the base frame, a suitable punched section must be installed for the mounting of the strain relief bracket.

3. Introduction

The stable flow of information and production is the 'lifeline' of an enterprise. Loss of data, failure of function and production causes extensive and in many cases life-threatening damage. Therefore, it is the declared company objective to ensure a maximum of safety and reliability.

Rittal offers support to achieve this: By means of universal competence in effective prevention, comprehensive safety, and centralised organisation, i.e. teamwork for IT safety and reliability! This result is an optimum combination of power management and administration, enclosure monitoring, server administration and climate control components.

The solution for the power management is the Rittal PSM – Power System Module. This concept includes complete power distribution of the enclosure, i.e. power supply, distribution and protection.

The PSM offers a revolutionary energy management for IT racks. The modular power supply system permits the power supply using a vertical bus bar on which the power system modules are simply clipped.

The system is made complete by its sophisticated modular structure. A basic installation can be implemented in next to no time. When demands then grow over time, the original system can simply be expanded with further plug-in modules, also available in

various country-specific versions. Rittal does not accept any warranty for any other uses of PSM buses.

4. Service and Service Address

If you have any questions concerning technical or other issues related to our product range, Rittal will be pleased to provide any required support.

You may contact us at the address indicated below.

Rittal GmbH & Co. KG
Auf dem Stuetzelberg
D-35745 Herborn
Germany

E-mail: Info@RITTAL.de



Note!

Please indicate always the item number in the reference line.

Support Tel.: +49 (0) 2772/505-9052
Complaints: +49 (0) 2772/505-1855
Fax: +49 (0) 2772/505-2319

Further information concerning the Rittal PSM can be downloaded from the RimatriX5 homepage www.rimatrix5.com

5. PSM Power System Module

Model No.: DK 7856.010

Model No.: DK 7856.020

Model No.: DK 7856.008 (for 2200mm Racks)

VDE Reg. No. A592

Tested and certified in accordance with DIN EN 60950 (VDE 0850):2000-12.



Danger!

An electrical test must be performed after the completion of the assembly, installation and maintenance work!

All protective conductor terminals and the voltages at all connection plugs, and at each individual module slot must be checked.

5.1. Scope of supply

- 1 x bus bar
- 2 x female multipoint connection strip
- 1 x operating instructions
- 1 x cable bracket, incl. assembly parts

5.2. Features

The principal features of the Rittal PSM are:

- Two separate 3~ infeeds, permitting redundant configurations
- 96 A current in total, i.e. 48 A per infeed
- Four plug-in modules can be accommodated on a 1200 mm bus bar, which corresponds to 24 IEC 320-C13 appliance sockets
- Seven plug-in modules can be accommodated on a 2000 mm bus bar, which corresponds to 42 IEC 320-C13 appliance sockets
- Eight plug-in modules can be accommodated on a 2200mm bus bar, which corresponds to 48 IEC 320-C13 appliance sockets
- Various country modules, UK, USA, F/B, earthing-pin plug, IEC 320-C13/C19 appliance sockets

- Shock-hazard-protected design, i.e. it is not necessary to configure the whole bus bar at once
- Modular design for simple installation
- Optimised cable management
- Complete compatibility with Rittal enclosure systems

5.3. Configuration

The vertical bus bar is an H-shaped aluminium section. The power distribution for the individual plug-in modules is realised in the rear, concealed section. The bus bar can be clipped directly into the vertical enclosure frame members of Rittal flexRack(i), or else retrofitted to other existing racks. To upgrade TS enclosures you require the **DK 7856.022 or DK 7856.023 mounting kit** and for TE enclosures the **DK 7000.684** PSM adaptor.

Once the bus bar is fitted in the enclosure, a voltage supply must be provided in a suitable form. This can be done either by way of a three-phase connector, e.g. IEC309 16 A, or with permanent wiring to the plug-in terminal strips provided on the bus bars. Connecting lines are available as Rittal accessories.



Warning!

The strain relief for the connection cable must be made in the immediate vicinity of the connection plug of the PSM bus bar. If the strain relief bracket cannot be attached to the base frame, a suitable punched section must be installed for the mounting of the strain relief bracket.



Note!

Observe the correct fuse values!! Refer to the notes on the rating plate.

The plug-in modules can now be clipped onto the bus bar in the desired positions. The modules are locked into place using the lugs on the end faces. A module can only be released from the bus bar after it has been unlocked.

To unlock a module, the lugs on the end faces must be pressed down at the same time at both ends. The module can then be pulled off the bus bar.

The connection direction of the modules is used to select infeed I or II

Condition: All infeeds must be connected by the customer.

For information about assembly and connection of the bus bar please see Chapters 17 and 18.

All important operating parameters, such as application limit temperature and humidity, allowed voltage supply, back-up fuses, etc., are described in more detail in Chapter 16.1

5.4. Optional accessories



Note!

Article numbers, see Chapter 15.

- 3~ over voltage protection
- Various country-specific plug-in modules
- DK 7856.025 or DK 7856.026 connection cable

5.5. Function principle

The diagram shows circuit A and circuit B of a 2000 mm strip.

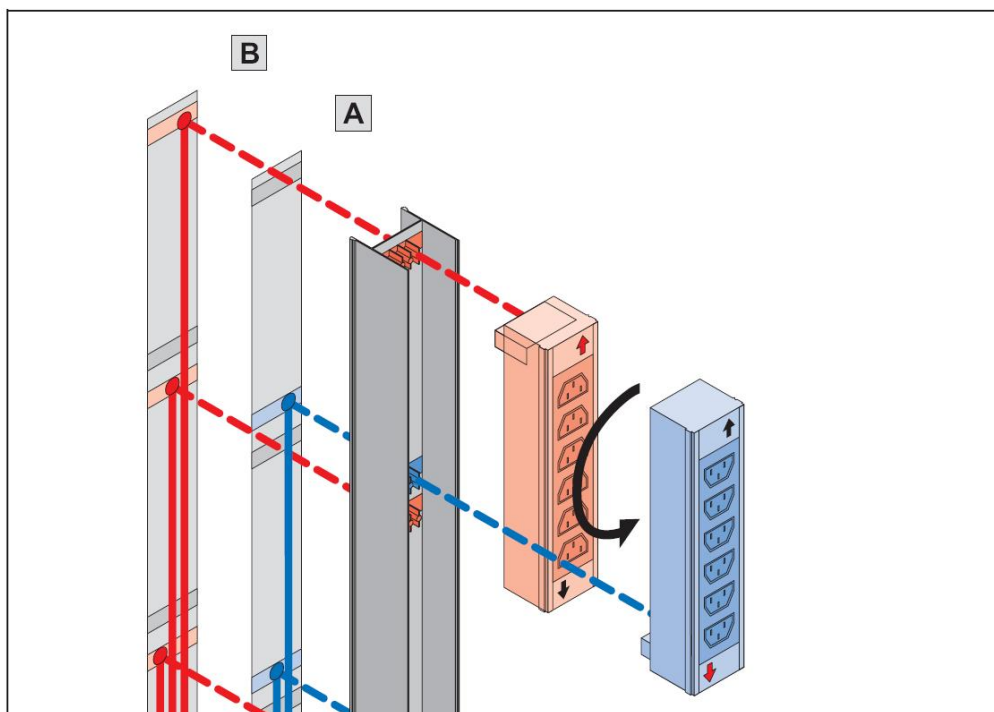


Fig. 1: Function principle

The red arrow on the PSM module points up

B infeed

For single-phase 32 A infeed, the B circuit must be protected using a 16 A class C circuit breaker.

The black arrow on the PSM module points up

A infeed

For single-phase 32 A infeed, the A circuit must be protected using a 16 A class C circuit breaker.

5.6. Wiring diagram

The diagram shows infeed I and infeed II of a 2000 mm and a 1200 mm strip

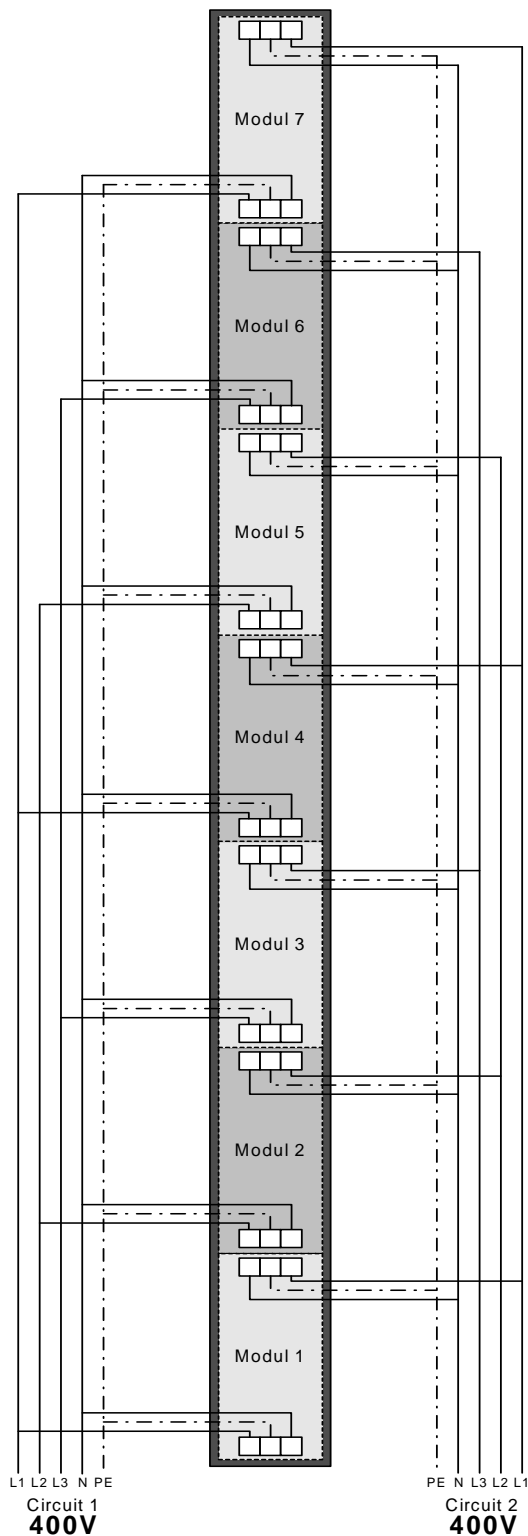


Fig. 2: Wiring diagram
Rittal PSM 2000 mm

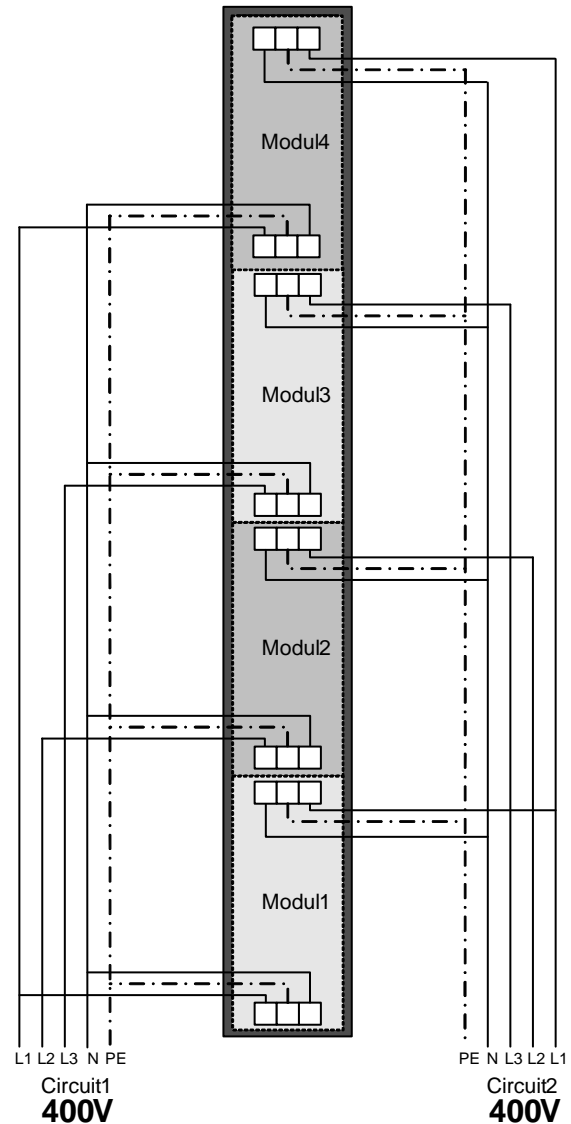


Fig. 3: Wiring diagram
Rittal PSM 1200 mm



Note!

The wiring of the 2200mm Model has the same plan, with one extra Slot for a PSM Module.

6. PSM with fixed infeed

Model No.: DK 7856.005 (with one infeed)
Model No.: DK 7856.006 (with two infeeds)

VDE Reg. No. A592

Tested and certified in accordance with
DIN EN 60950 (VDE 0850):2000-12.



Danger!

An electrical test must be performed after the completion of the assembly, installation and maintenance work!

All protective conductor terminals and the voltages at all connection plugs, and at each individual module slot must be checked.

6.1. Scope of supply

1 x bus bar with fixed infeeds
1 x operating instructions
1 x assembly parts

6.2. Features

The principal features of the Rittal PSM are:

- Two separate 3~ infeeds, permitting redundant configurations



Note!

Model DK 7856.005 only got ONE 3~ infeed

- 96 A current in total, i.e. 48 A per infeed



Note!

Model DK 7856.005: 48A current in total

- Seven plug-in modules can be accommodated on a 2000 mm bus bar, which corresponds to 42 IEC 320-C13 appliance sockets
- Various country modules, UK, USA, F/B, earthing-pin plug, IEC 320-C13/C19 appliance sockets

- Shock-hazard-protected design, i.e. it is not necessary to configure the whole bus bar at once
- Modular design for simple installation
- Optimised cable management
- Complete compatibility with Rittal enclosure systems

6.3. Configuration

The vertical bus bar is an H-shaped aluminium section. The power distribution for the individual plug-in modules is realised in the rear, concealed section. The bus bar can be clipped directly into the vertical enclosure frame members of Rittal flexRack(i), or else retrofitted to other existing racks. To upgrade TS enclosures you require the **DK 7856.022 or DK 7856.023 mounting kit** and for TE enclosures the **DK 7000.684** PSM adaptor.

The models 7856.005 and 7856.006 did have a fixed connection from the power cable to the bus bar, so it is no more possible to disconnect the plug on the bar and there is no need for a cable bracket.



Warning!

The strain relief for the connection cable must be made in the immediate vicinity of the connection plug of the PSM bus bar. If the strain relief bracket cannot be attached to the base frame, a suitable punched section must be installed for the mounting of the strain relief bracket.



Note!

Observe the correct fuse values!! Refer to the notes on the rating plate.

The plug-in modules can now be clipped onto the bus bar in the desired positions. The modules are locked into place using the lugs on the end faces. A module can only be released from the bus bar after it has been unlocked.

To unlock a module, the lugs on the end faces must be pressed down at the same time at both ends. The module can then be pulled off the bus bar.

The connection direction of the modules is used to select infeed I or II (redundancy, see Section 5.5).

Condition: All infeeds must be connected by the customer.

**Note!**

Model DK 7856.005 only got one infeed. So it does not matter in which direction you put in the modules

For information about assembly and connection of the bus bar please see Chapters 17 and 18.

All important operating parameters, such as application limit temperature and humidity, allowed voltage supply, back-up fuses, etc., are described in more detail in Chapter 16.2.

6.4. Optional accessories

**Note!**

Article numbers, see Chapter 15.

- 3~ over voltage protection
- Various country-specific plug-in modules

7. PSM Plus Power System Module with 4 Infeeds

Model No.: DK 7856.015

Designed in accordance with DIN EN 60950-1 (VDE 0805):2003-03.



Danger!

An electrical test must be performed after the completion of the assembly, installation and maintenance work!



All protective conductor terminals and the voltages at all connection plugs, and at each individual module slot must be checked.

7.1. Scope of supply

- 1 x bus bar
- 1 x operating instructions
- 1 x cable bracket, incl. assembly parts

7.2. Features

The principal features of the Rittal PSM Plus are:

- Four separate 3~ infeeds, permitting redundant configurations
- 192 A current available, 48 A per infeed
- Six plug-in modules can be accommodated on a 2000 mm bus bar, which corresponds to 36 IEC 320-C13 appliance sockets
- IEC 60320 C13, IEC 60320 C19 plug-in modules, and earthing-pin plug
- Shock-hazard-protected design, i.e. it is not necessary to configure the whole bus bar at once
- Modular design for simple installation
- Optimised cable management
- Full compatibility with Rittal enclosure systems

7.3. Configuration

The vertical bus bar is an H-shaped aluminium section. The power distribution for the individual plug-in modules is realised in the rear, concealed section. The bus bar can be clipped directly into the vertical enclosure frame members of Rittal flexRack(i), or else retrofitted to other existing racks. To upgrade TS enclosures you require the **DK 7856.022 or DK 7856.023 mounting kit** and for TE enclosures the **DK 7000.684** PSM adaptor.

Once the bus bar is fitted in the enclosure, a voltage supply must be provided in a suitable form. This can be done either by way of a three-phase connector, e.g. IEC309 16 A, or with permanent wiring. Connecting lines are available as Rittal accessories.



Note!

Observe the correct fuse values!! Refer to the notes on the rating plate.

The plug-in modules can now be clipped onto the bus bar in the desired positions. They are locked into place by way of the lugs on the end faces. A module can only be released from the bus bar after it has been unlocked.

To unlock a module, the lugs on the end faces must be pressed down at the same time at both ends. The module can then be pulled off the bus bar.

Condition for the redundancy: All infeeds must be connected by the customer (see Section 7.5).

For information about assembly and connection of the bus bar please see Chapters 17 and 18.

All important operating parameters, such as application limit temperature and humidity, allowed voltage supply, back-up fuses, etc., are described in more detail in Chapter 16.3

7.4. Optional accessories

**Note!**

Article numbers, see Chapter 15.

- DK 7856.018 connection cable
- 3~ over voltage protection
- IEC 60320 C13, IEC 60320 C19 plug-in modules, and earthing-pin plug

7.5. Wiring diagram

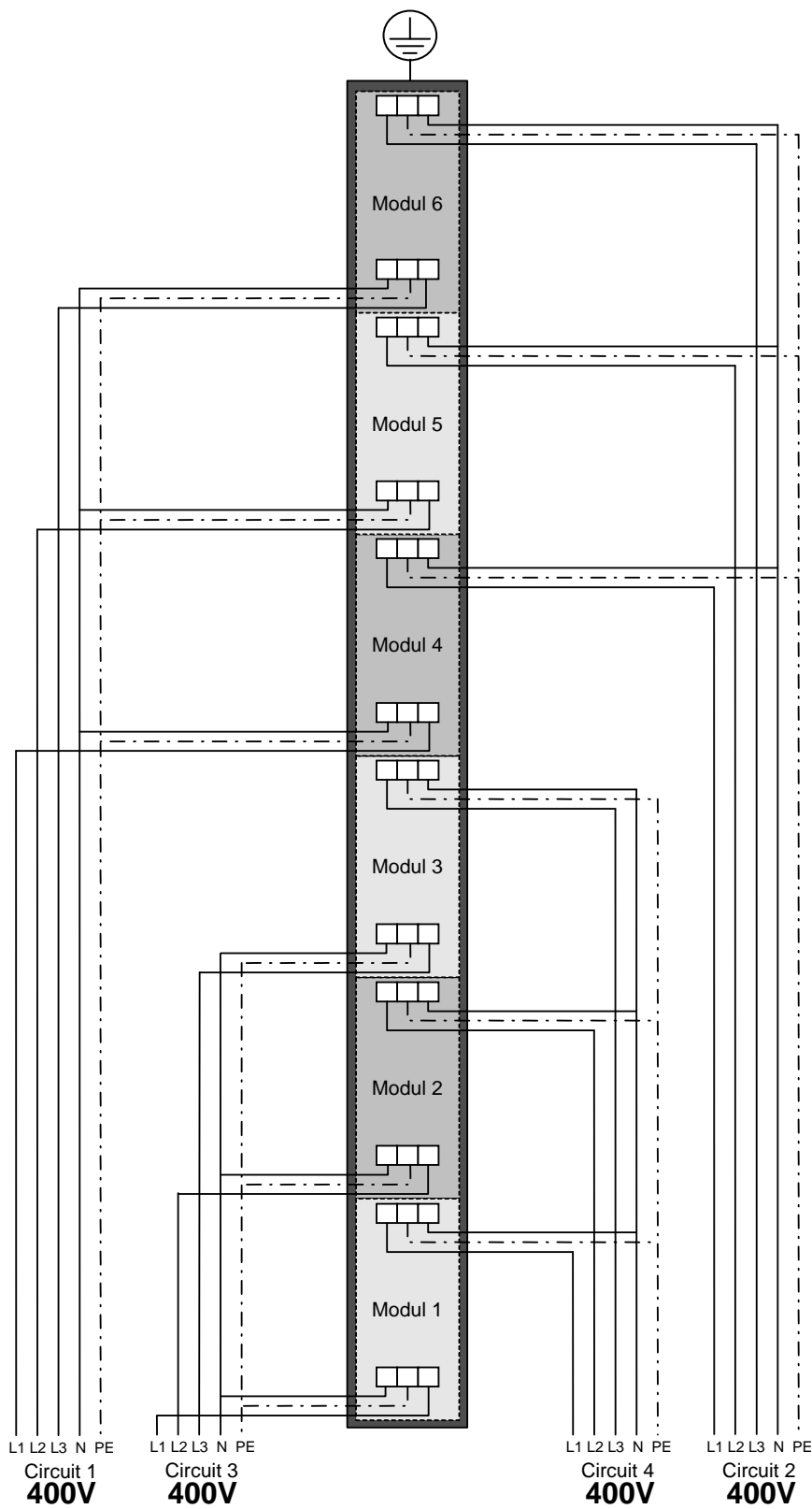


Fig. 5: PSM Plus wiring diagram

8. Metered PSM Power System Module with measuring function

Model No.: DK 7856.016 (2 infeeds, 16A)

Model No.: DK 7856.003 (1 infeed, 32A)

Designed in accordance with DIN EN 60950-1
(VDE 0805):2003-03.



Danger!

An electrical test must be performed after the completion of the assembly, installation and maintenance work!

All protective conductor terminals and the voltages at all connection plugs, and at each individual module slot must be checked.



Warning!

To prevent damage to the Rittal Metered PSM, ensure that "N" and "L" for the infeed are not interchanged.



Note!

A power pack is required if the Metered PSM is not connected to the CMC-TC Processing Unit. Model number for the required power pack: DK7201.210, a connection cable is also required, see Chapter 15.



Note!

The Model DK **7856.003** has just **one singlephase Infeed** and offers **max. 32A**.

- Six plug-in modules can be inserted on a 2-metre bus bar; this corresponds to 36 IEC 320 appliance sockets
- Shock-hazard-protected design, i.e. it is not necessary to configure the whole bus bar at once
- IEC 60320 C13, IEC 60320 C19 plug-in modules, and earthing-pin plug
- Modular design for simple installation
- Optimised cable management
- Full compatibility with Rittal enclosure systems
- Connection to the CMC-TC
- Measurement and display on the current, voltage, power, work (energy), frequency display

8.3. Configuration

The vertical bus bar is an H-shaped aluminium section. The power distribution for the individual plug-in modules is realised in the rear, concealed section. The bus bar can be clipped directly into the vertical enclosure frame members of Rittal flexRack(i), or else retrofitted to other existing racks. To upgrade TS enclosures you require the **DK 7856.022 or DK 7856.023 mounting kit** and for TE enclosures the **DK 7000.684 PSM adaptor**.

Once the bus bar is fitted in the enclosure, a voltage supply must be provided in a suitable form. This can be done either by way of a three-phase connector, e.g. IEC309 16 A, or with permanent wiring. Connecting lines are available as Rittal accessories.



Note!

Observe the correct fuse values! Refer to the notes on the rating plate.

8.1. Scope of supply

- 1 x bus bar
- 1 x operating instructions
- 1 x cable bracket, incl. assembly parts
- 2 x female multipoint connection strip (7856.016)
- 1 x Connection cable with CE-Plug, 32A (7856.003)

8.2. Features

The principal features of Rittal Metered PSM are:

- Two separate 3~ infeeds, permitting redundant configurations
- 96 A current available, 48 A per infeed



Warning!

The strain relief for the connection cable must be made in the immediate vicinity of the connection plug of the PSM bus bar. If the strain relief bracket cannot be attached to the base frame, a suitable punched section must be installed for the mounting of the strain relief bracket.

The plug-in modules can now be clipped onto the bus bar in the desired positions. They are locked into place by way of the lugs on the end faces. A module can only be released from the bus bar after it has been unlocked.

To unlock a module, the lugs on the end faces must be pressed down at the same time at both ends. The module can then be pulled off the bus bar.

Condition for the redundancy: All infeeds must be connected by the customer.

For information about assembly and connection of the bus bar please see Chapters 17 and 18.

All important operating parameters, such as application limit temperature and humidity, allowed voltage supply, back-up fuses, etc., are described in more detail in Chapter 16.4.

8.4. Optional accessories



Note!

Article numbers, see Chapter 15.

- DK 7856.025 or DK 7856.026 connection cable
- 3~ over voltage protection
- Various plug-in modules
- Connection to the CMC-TC

8.5. Description

The Power System Module Metered PSM offers revolutionary power management for IT racks. The modular power supply system realises power input via a vertical mounting rail (bus bar) with a three-phase infeed. The individual Power System Modules are simply clipped to this rail.

The Metered PSM bus bar provides the possibility to measure the voltage, current, power and energy per infeed and per phase. The mains frequency can also be measured per infeed. The Metered PSM bus bar also provides the possibility to set the upper and lower threshold values for voltage and current for each phase.



I/O port: connection on the CMC-TC or power pack

Jog Dial

LCD display

Fig.6: Metered PSM

The Jog Dial is used to configure the Metered PSM bus bar and to navigate through the display menu represented in the LCD display. The connection to the CMC-TC allows all parameters of the bus bar to be queried using a Web interface. The inclusion in a network management system using SNMP is also possible.

If the Metered PSM bus bar is operated directly with a power pack, all values can be read from the display. The power pack is connected to the I/O port. A remote configuration and administration is not possible for operation with power pack for the Metered PSM bus bar.

If the threshold value of the Metered PSM bus bar is undershot or overshoot, the display flashes and the error message will be displayed at the lower edge.

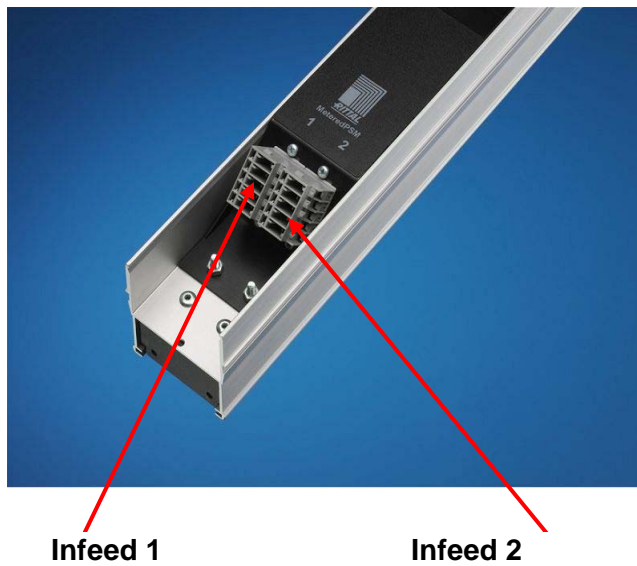


Fig.7: Metered PSM

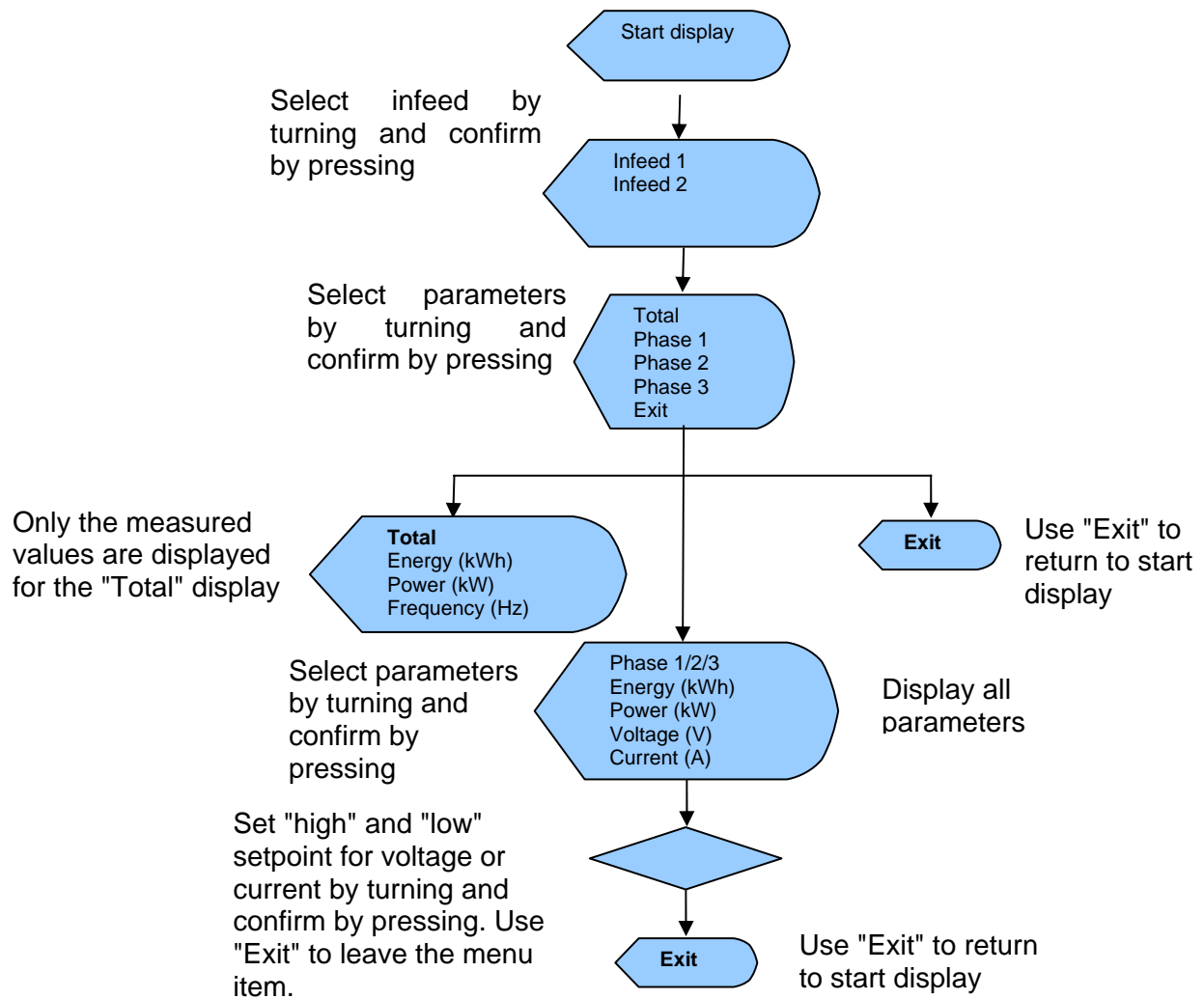
The angled plug connectors permit a parallel routing of the connection cable to the Metered PSM bus bar.



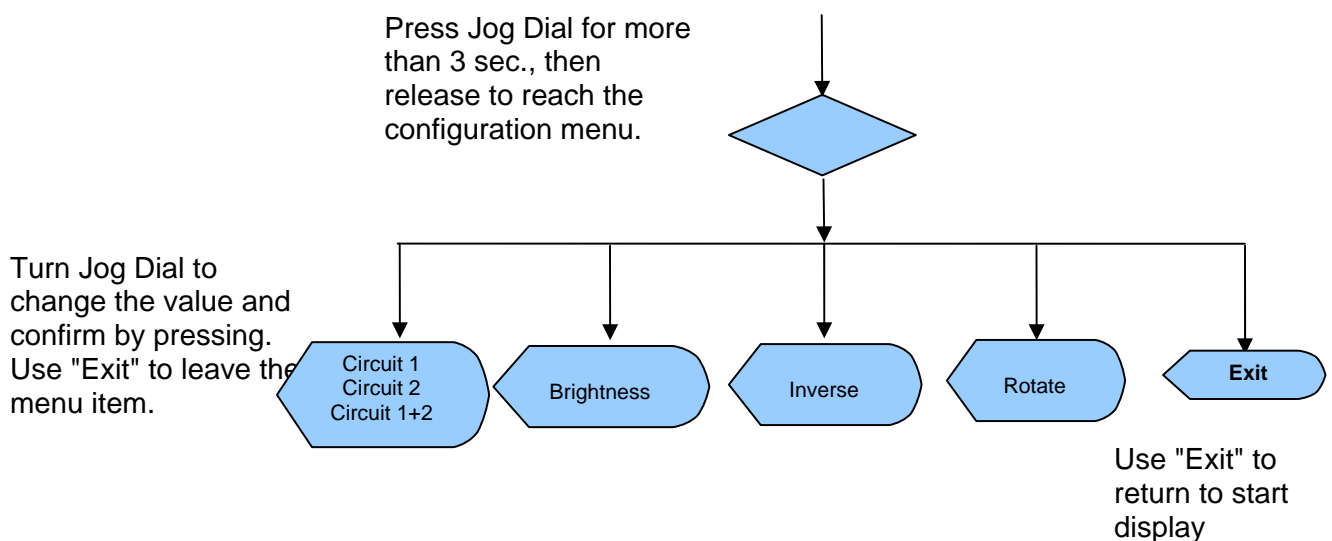
Note!

The Model DK 7856.003 has a fixed infeed with DIN-Bolting and a 32A CE-Plug..

8.6. Configuration of the Metered PSM



Configuration of the display



Sequence diagram 1: Configuration of the Metered PSM

8.7. Connection to the CMC-TC

8.7.1. Associated documents

The guide for the CMC-TC Processing Unit II (DK 7320.100) and its safety notes also apply together with this guide.

You can download the German version of the guide from:

http://www.rimatrix5.de/service_support/downloads.asp

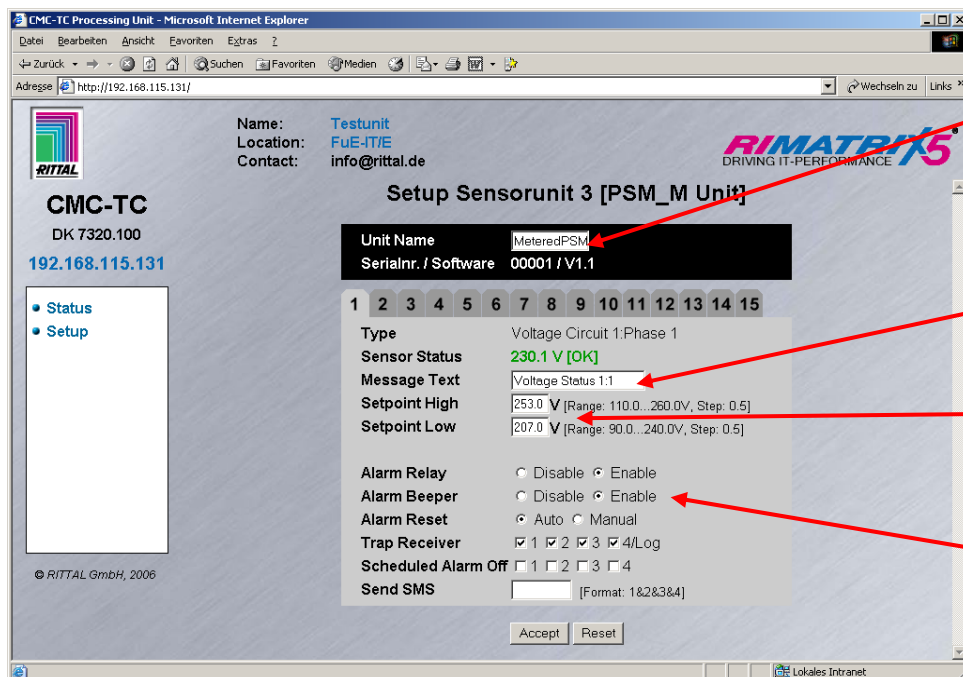
"Power" must be specified as product group.

Here you find software updates for the metered PSM as well.

To view the guide you require the Acrobat Reader program; Acrobat Reader can be downloaded from www.adobe.com

8.7.2. Commissioning

The Metered PSM bus bar can be managed completely using the CMC-TC PU. The Metered PSM bus bar is connected directly with the sensor unit input of the PU. The bus bar is recognised automatically and immediately operational after confirmation of the changed configuration on the PU.



The name of the Metered PSM bus bar is also used to send SNMP traps.

Notification text

Upper and lower threshold value

Alarm management, see CMC-TC PU manual

Fig.8: Tab 1

Tabs 1 to 12 are constructed identically. Tabs 1 to 3 represent the L1, L2 and L3 voltages of infeed 1. Tabs 4 to 6 represent the current of infeed 1. Tabs 7 to 12 provide the values for infeed 2.

Tab 13 provides the values for the power and the energy of infeed 1. Tab 14 provides this information for infeed 2.

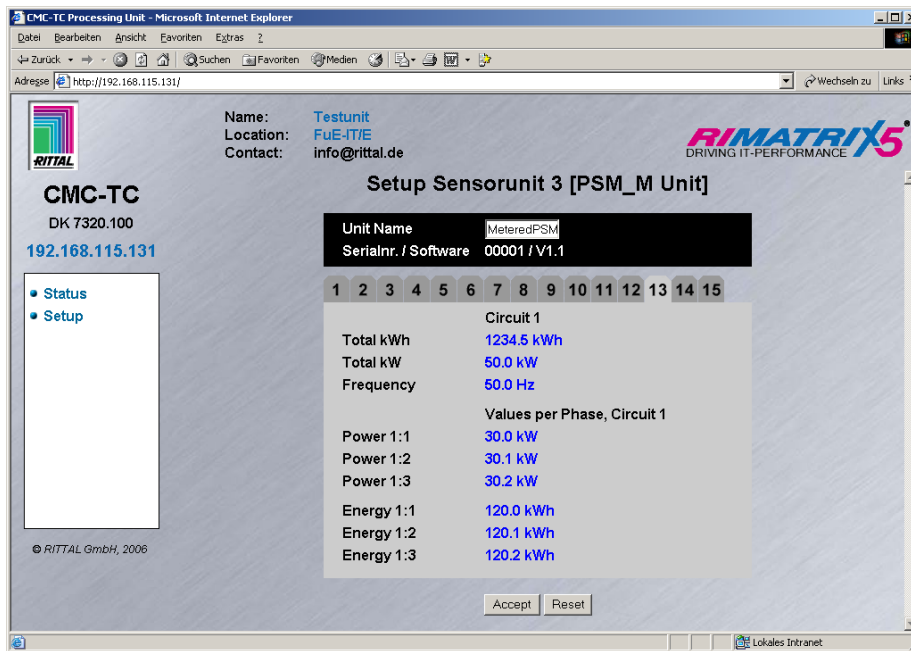


Fig.9: Tab 13

Tab 15 provides an overview for the voltage and current values of both infeeds and all phases.

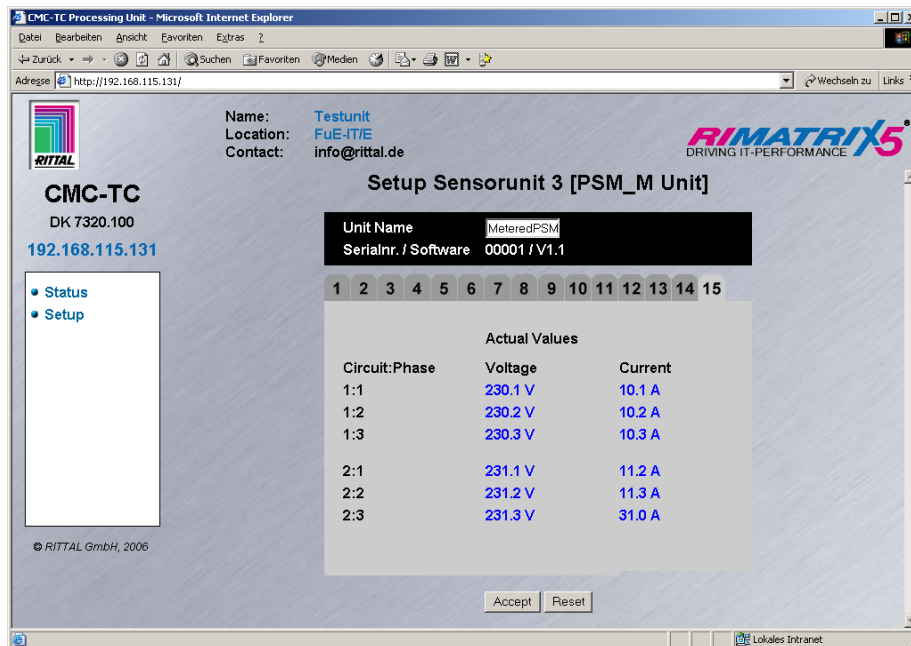


Fig.10: Tab 15

8.8. Wiring diagram

7856.016:

7856.003:

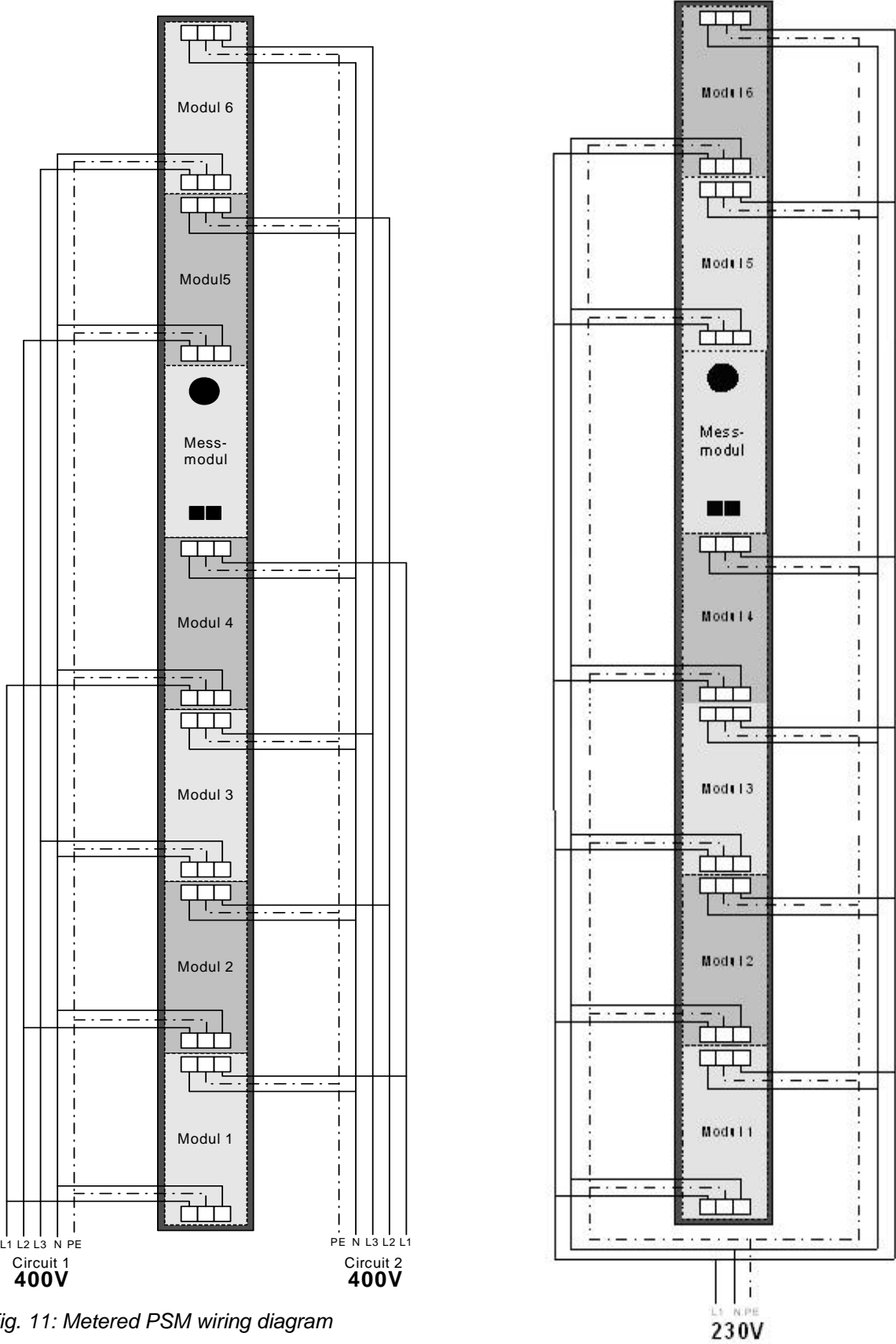


Fig. 11: Metered PSM wiring diagram

9. PSM Version 32 A, Single-Phase

Model No.: DK 7856.321

Model No.: DK 7856.043 (with integrated RCD)



Danger!

An electrical test must be performed after the completion of the assembly, installation and maintenance work!

All protective conductor terminals and the voltages at all connection plugs, and at each individual module slot must be checked.

9.1. Scope of supply

- 1 x bus bar with CEKON connection cable and connection plug
- 1 x operating instructions
- 1 x cable bracket, incl. assembly parts

9.2. Features

The principal features of the Rittal PSM are:

- A 1~ infed with connection cable and CEE connection plug
- 32 A current are available
- Integrated protection using a 16 A, class C circuit-breaker
- The **Model 7856.043** has two integrated RCDs (Residual Current protective Devices) and allows the application in areas as described in DIN VDE 0100-410.
- Six plug-in modules can be inserted on a 2-metre bus bar; this corresponds to 36 IEC 60320 appliance sockets
- Shock-hazard-protected design, i.e. it is not necessary to configure the whole bus bar at once
- Various country modules, UK, USA, F/B, earthing-pin plug, IEC 320-C13/C19 appliance sockets

- Integrated fuses
- Modular design for simple installation
- Optimised cable management
- Complete compatibility with Rittal enclosure systems

9.3. Configuration

The vertical bus bar is an H-shaped aluminium section. The power distribution for the individual plug-in modules is realised in the rear, concealed section. The bus bar can be clipped directly into the vertical enclosure frame members of Rittal flexRack(i), or else retrofitted to other existing racks. To upgrade TS enclosures you require the **DK 7856.022 or DK 7856.023 mounting kit** and for TE enclosures the **DK 7000.684 PSM adaptor**.



Note!

Observe the correct fuse values! Refer to the notes on the rating plate.

The plug-in modules can now be clipped onto the bus bar in the desired positions. They are locked into place by way of the lugs on the end faces. A module can only be released from the bus bar after it has been unlocked.

To unlock a module, the lugs on the end faces must be pressed down at the same time at both ends. The module can then be pulled off the bus bar.

The connection direction of the modules is used to select circuit/fusing A/F1 or circuit/fusing B/F2

For information about assembly and connection of the bus bar please see Chapters 17 and 18.

All important operating parameters, such as application limit temperature and humidity, allowed voltage supply, back-up fuses, etc., are described in more detail in Chapter 16.5

9.4. Optional accessories



Note!

Article numbers, see Chapter 15.

- Over voltage protection
- Various country-specific plug-in modules

9.5. Function principle

The diagram shows circuit A and circuit B of a 2000 mm strip.

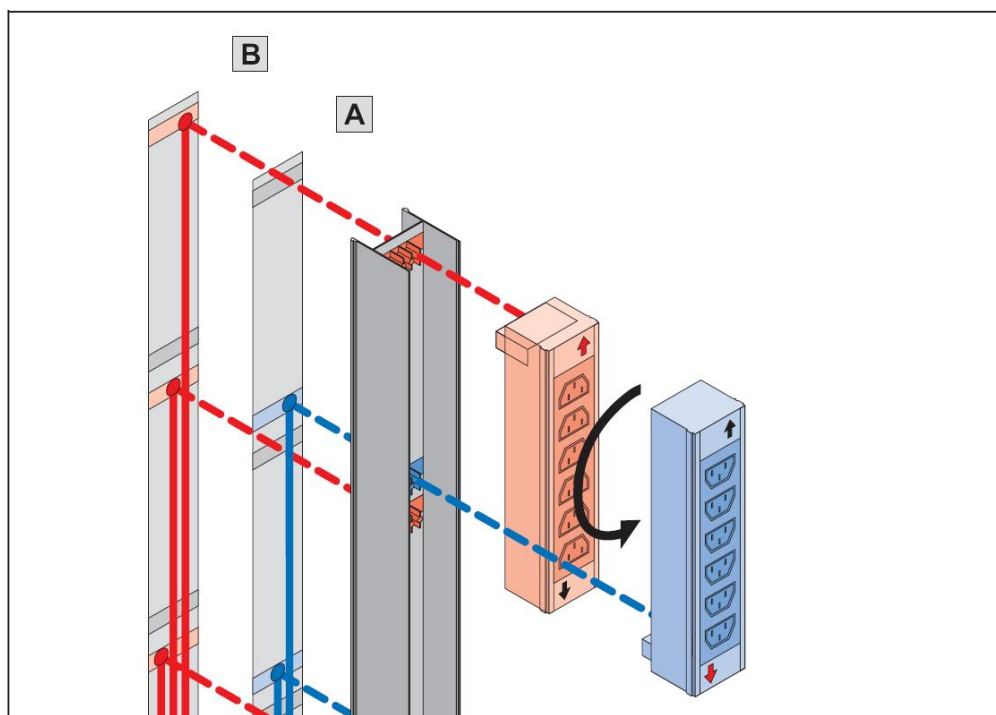


Fig. 12: Function principle

The red arrow on the PSM module points up

F1 fuse

For single-phase 32 A infeed, the B circuit (F1 fuse) is tapped after the 16 A class C circuit breaker.

The black arrow on the PSM module points up

F2 fuse

For single-phase 32 A infeed, the A circuit (F2 fuse) is tapped after the 16 A class C circuit breaker.

9.6. Wiring diagram

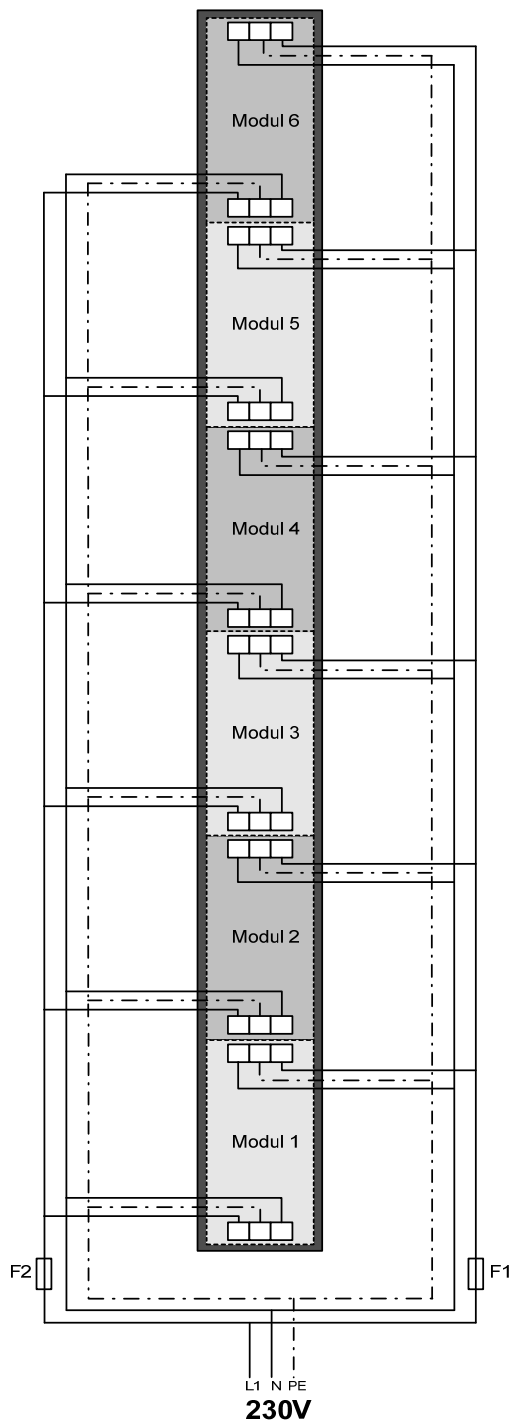


Fig. 13: PSM 32 A (single-phase)



Note!

The Model 7856.043 has additionally to the two fuses two integrated RCDs.

10. Power System Module with a 32 A Infeed

Model No.: DK 7856.323

VDE Reg. No. A592

Tested and certified in accordance with DIN EN 60950 (VDE 0805):2000-12.



Danger!

An electrical test must be performed after the completion of the assembly, installation and maintenance work!

All protective conductor terminals and the voltages at all connection plugs, and at each individual module slot must be checked.

10.1. Scope of supply

- 1 x bus bar with connection cable
- 2 x female multipoint connection strip
- 1 x operating instructions
- 1 x cable bracket, incl. assembly parts

10.2. Features

The principal features of the Rittal PSM are:

- One 3~ infeed
- 96 A current available, 32 A per phase
- Six plug-in modules can be accommodated on a 2000 mm bus bar, which corresponds to 36 IEC 320 appliance sockets
- Various country modules, UK, USA, F/B, earthing-pin plug, IEC 320-C13 appliance sockets
- Shock-hazard-protected design, i.e. it is not necessary to configure the whole bus bar at once
- Modular design for simple installation
- Optimised cable management
- Complete compatibility with Rittal enclosure systems

10.3. Configuration

The vertical bus bar is an H-shaped aluminium section. The power distribution for the individual plug-in modules is realised in the rear, concealed section. The bus bar can be clipped directly into the vertical enclosure frame members of Rittal flexRack(i), or else retrofitted to other existing racks. To upgrade TS enclosures you require the **DK 7856.022 or DK 7856.023 mounting kit** and for TE enclosures the **DK 7000.684** PSM adaptor.

Once the bus bar is fitted in the enclosure, a voltage supply must be provided in a suitable form. The six slots for the modules are each assigned their own fuse. See Section 10.5.



Note!

Observe the correct fuse values! Refer to the notes on the rating plate.

The plug-in modules can now be clipped onto the bus bar in the desired positions. They are locked into place by way of the lugs on the end faces. A module can only be released from the bus bar after it has been unlocked.

To unlock a module, the lugs on the end faces must be pressed down at the same time at both ends. The module can then be pulled off the bus bar.

For information about assembly and connection of the bus bar please see Chapters 17 and 18.

All important operating parameters, such as application limit temperature and humidity, allowed voltage supply, back-up fuses, etc., are described in more detail in Chapter 16.6

10.4. Optional accessories



Note!

Article numbers, see Chapter 15.

- 3~ over voltage protection
- Various country-specific plug-in modules

10.5. Wiring diagram

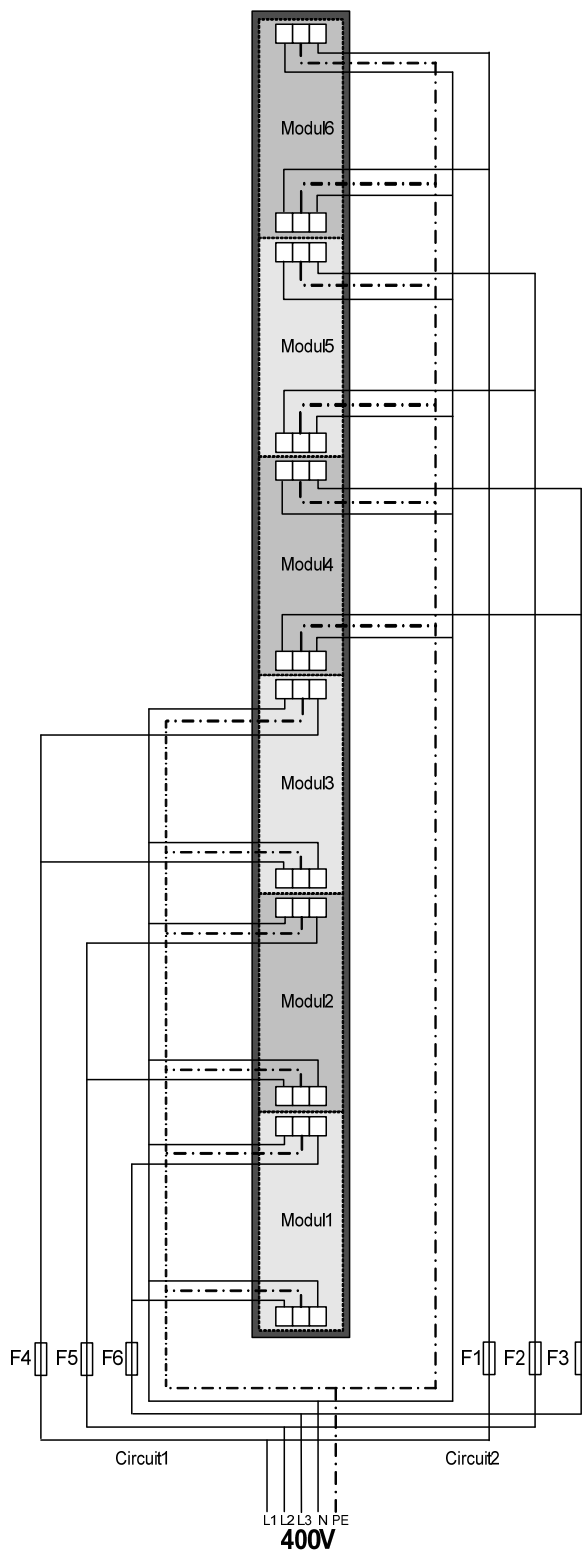


Fig. 14: PSM 32 A (3-phase) wiring diagram

11. Mounting of the Lockout for DK7856.321 and DK 7856.323

The DK 7856.321 and DK 7856.323 PSM bus bars provide a possibility to prevent the unintentional activation of the circuit breakers by the installation of the supplied lockout.



Note!

The installation of the lockout does not affect the actual operation of the line circuit breaker.

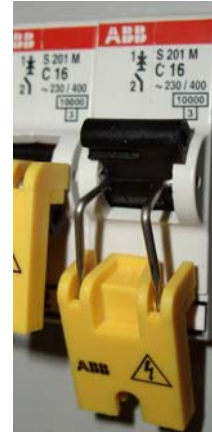


Fig. 18: Correct installation of the lockout



Fig. 15: Lockout

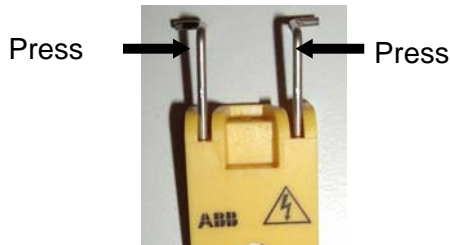


Fig. 16: 1. Installation steps



The lockout must be inserted in these openings.

Fig. 17: Openings for the installation of the lockout

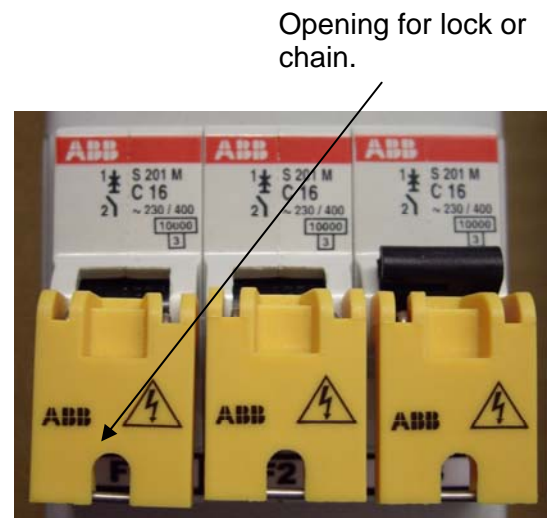


Fig. 19: Installation examples

The removal of the lockout can be prevented by raising the plastic cap and inserting a lock or a chain.

12. Maintenance

The Rittal PSM is a maintenance-free system that does not need to be opened for the purposes of installation or operation. Opening the housing or any accessory components will void any warranty and liability claims.

13. Cleaning

The Rittal PSM system can be cleaned using a dry cloth. The use of aggressive substances like cleanser's solvent, acids, etc. will destroy the system.

14. Disposal

Because the Rittal PSM comprises predominantly of aluminium and plastic materials, it should be sent for proper disposal and recycling when it is no longer needed. The infeed cables should be removed before disposal.

15. Accessories for PSM Bus bars



Note!

The accessories are sorted according to the use with PSM bus bars.

15.1. 7856.003, 7856.005, 7856.006, 7856.008, 7856.010, 7856.020, 7856.016, 7856.043, 7856.321 and 7856.323

Model No.:	Designation
DK 7856.070	PSM 6-way IEC320 plug-in module with fuse
DK 7856.080	PSM 6-way IEC320 plug-in module without fuse
DK 7856.082	IEC320 C13 6-way red
DK 7856.090	PSM 4-way earthing-pin plug-in module with fuse
DK 7856.100	PSM 4-way earthing-pin plug-in module without fuse
DK 7856.110	PSM 4-way French plug-in module with fuse
DK 7856.120	PSM 4-way French plug-in module without fuse
DK 7856.130	PSM 4-way USA plug-in module with fuse
DK 7856.140	PSM 4-way USA plug-in module without fuse
DK 7856.150	PSM 4-way UK plug-in module with fuse
DK 7856.160	PSM 4-way UK plug-in module without fuse
DK 7856.180	PSM 4-way CH plug-in module with fuse
DK 7856.190	PSM 4-way CH plug-in module without fuse
DK 7856.201	Active PSM 8-way individually switchable

DK 7856.203	Active PSM 6-way, 4x with earthing-pin plug
DK 7856.204	Active PSM 6-way, with 4x C19
DK 7856.220	IEC320 Power System Module individually fused
DK 7856.230	IEC 320 C19 PSM plug-in module
DK 7856.240	PSM plug-in module, earthing-pin plug, red
DK 7856.170	Over voltage protection
DK 7201.210	Optional power pack for DK 7856.016 with:
DK 7200.210	D/F/B connection cable
DK 7200.211	GB connection cable
DK 7200.213	CH connection cable

15.2. 7856.015

Model No.:	Designation
DK 7856.081	6-way C13 module with 2x16 A inputs
DK 7856.101	2-way earthing-pin plug module with 2x16 A inputs
DK 7856.231	4-way C19 module with 2x16 A inputs
DK 7856.170	Over voltage protection
DK 7856.018	3-phase mains connection cable, EN 60 309
DK 7856.017	Extension cable

15.3. 7856.003, 7856.005, 7856.006, 7856.008, 7856.010, 7856.015, 7856.016, 7856.020, 7856.043, 7856.321 and 7856.323

Model No.:	Designation
DK 7856.210	PSM light module
DK 7000.684	PSM adaptor for TE rack
DK 7856.022	TS mounting kit for static installation
DK 7856.023	TS mounting kit, mobile

15.4. 7856.010, 7856.016, 7856.020, 7856.008

Model No.:	Designation
DK 7856.025	Connection cable, 3-phase CEKON 5-pole / 16 A
DK 7856.026	Connection cable, 1-phase CEKON 3-pole / 16 A
DK 7856.027	Connection cable, UPS, 1-phase C14/X-Com

16. Technical Specifications

16.1. Technical specifications – PSM bus bar

Model No. DK 7856.010, 1200 mm enclosure height

Model No. DK 7856.020, 2000 mm enclosure height

Model No. DK 7856.008, for 2200mm Racks

Bus bar	Aluminium, anodised
Height	For 1200 mm and 2000 mm enclosure height
Width	approx. 60 mm
Depth	approx. 55 mm
Weight	approx. 1.5 kg without packing, without modules
Potential equalisation	Yes
Earthing	Yes, separate housing earthing point (6.3 mm flat-pin connector), min. 2.5 mm ² cross-section
IP protection category	IP 20 to EN 60529
Temperature range	+5° C to 45° C +41° F to 113° F
Humidity range	5% to 95% relative humidity, non-condensing
Storage temperature range	-20° C to 60° C -4° F to 140° F
Power connection:	
Power supply	Infeed I: 3~400 VAC + N + PE, max. current 3 x 16 A Infeed II: 3~400 VAC + N + PE, max. current 3 x 16 A
Fusing	Back-up fuse, installed by the customer, 16 A per phase. Observe the data on the bus bar rating plate!
Max. cable length	50 m, observe the cable cross-section and backup fuse!
Connection plug of the infeed	Tension spring terminal, plug-type
	Number of poles 5
	Max. cross-section [mm ²] 4
	Max. cross-section [AWG] 12
	EN rated voltage 500 V
	Rated peak voltage 6 kV
	Level of contamination 3
	Rated current 16 A
	Bared length [mm] 8 Bared length [inch] 0.33

16.2. Technical specifications – PSM with fixed infeed

Model No.: DK 7856.005, 2000 mm enclosure height with one infeed

Model No.: DK 7856.006, 2000 mm enclosure height with two infeeds

Bus bar	Aluminium, anodised
Height	For enclosure height 2000 mm
Width	approx. 60 mm
Depth	approx. 55 mm
Weight	approx. 5 kg without packing, without modules
Potential equalisation	Yes
Earthing	Yes, separate housing earthing point (6.3 mm flat-pin connector), min. 2.5 mm ² cross-section
IP protection category	IP 20 to EN 60529
Temperature range	+5° C to 45° C +41° F to 104° F
Humidity range	5% to 95% relative humidity, non-condensing
Storage temperature range	-20° C to 60° C -4° F to 140° F
Power connection:	
Power supply	Infeed I: 3~ 400 VAC + N + PE, max. current 3 x 16 A Infeed II: 3~ 400 VAC + N + PE, max. current 3 x 16A
Fusing	Back-up fuse, installed by the customer, 16 A per phase. Observe the data on the bus bar rating plate!
Max. cable length	50 m, observe the cable cross-section and backup fuse!
Connection plug of the infeed	3-phase circuit with neutral conductor and PE separate neutral conductor common PE max. current 3x16 A per infeed

16.3. Technical specifications – PSM Plus with 4-way infeed

Model No. DK 7856.015

Bus bar	Aluminium, anodised
Height	For enclosure height 2000 mm
Width	approx. 60 mm
Depth	approx. 55 mm
Weight	approx. 5 kg without packing, without modules
Potential equalisation	Yes
Earthing	Yes, separate housing earthing point (6.3 mm flat-pin connector), min. 2.5 mm ² cross-section
IP protection category	IP 20 to EN 60529
Temperature range	+5° C to 40° C +41° F to 104° F
Humidity range	5% to 95% relative humidity, non-condensing
Storage temperature range	-20° C to 60° C -4° F to 140° F
Power connection:	
Power supply	Circuit I: 3~ 400 VAC / 230 VAC + N + PE, max. current 3 x 16 A Circuit II: 3~400 VAC / 230 VAC + N + PE, max. current 3 x 16 A Circuit III: 3~ 400 VAC / 230 VAC + N + PE, max. current 3 x 16 A Circuit IV: 3~ 400 VAC / 230 VAC + N + PE, max. current 3 x 16 A
Fusing	Back-up fuse, installed by the customer, 16 A per phase. Observe the data on the bus bar rating plate!
Max. cable length	50 m, observe the cable cross-section and backup fuse!
Connection plug of the infeed	4x Wieland GST 18 connection plug 3-phase circuit with neutral conductor and PE separate neutral conductor common PE max. current 3x16 A per infeed

16.4. Technical specifications – PSM bus bar with 3-phase current measurement

Model No. DK 7856.016

Model No. DK 7856.003

Bus bar	Aluminium, anodised	
Height	for enclosure height 2000 mm	
Width	approx. 60 mm	
Depth	approx. 55 mm	
Weight	approx. 5 kg without packing, without modules	
Potential equalisation	Yes	
Earthing	Yes, separate housing earthing point (6.3 mm flat-pin connector), min. 2.5 mm ² cross-section	
IP protection category	IP 20 to EN 60529	
Temperature range	+5° C to 40° C +41° F to 104° F	
Humidity range	5% to 95% relative humidity, non-condensing	
Storage temperature range	-20° C to 60° C -4° F to 140° F	
Power connection:		
Power supply	7856.016: Circuit I: 400 VAC / N + PE, max. current 3 x 16 A Circuit II: 400 VAC / N + PE, max. current 3 x 16A	7856.003: Circuit I: 230V 50Hz/60Hz
Fusing	Back-up fuse, installed by the customer, 16 A per phase (7856.016), respectively 32 A (7856.003). Observe the data on the bus bar rating plate!	
Max. cable length	50 m, observe the cable cross-section and backup fuse!	
Connection plug of the infeed	7856.016: Tension spring terminal, plug-type	7856.003: CE-Connection-plug, 32 A
	Number of poles	5
	Max. cross-section [mm ²]	4
	Max. cross-section [AWG]	12
	EN rated voltage	500 V
	Rated peak voltage	6 kV
	Level of contamination	3
	Rated current	16 A
	Bared length [mm]	8
	Bared length [inch]	0.33

16.5. Technical specifications – PSM 32 A, single-phase

Model No. DK 7856.321

Model No. DK 7856.043

Bus bar	Aluminium, anodised
Height	For 1200 mm and 2000 mm enclosure height
Width	approx. 60 mm
Depth	approx. 55 mm
Weight	approx. 3.5 kg without packing, without modules
Potential equalisation	Yes
Earthing	Yes, separate housing earthing point (6.3 mm flat-pin connector), min. 2.5 mm ² cross-section
IP protection category	IP 20 to EN 60529
Temperature range	+5° C to 45° C +41° F to 113° F
Humidity range	5% to 95% relative humidity, non-condensing
Storage temperature range	-20° C to 60° C -4° F to 140° F
Power connection:	
Power supply	Power supply: 1~ 200-230 VAC + N + PE, max. current 1 x 32A
Integrated fusing	16 A circuit-breaker, characteristic C 7856.043 offers additionally two RCDs (residual current: 30mA)
Fusing installed by the customer	Back-up fuse, installed by the customer, 32 A per phase. Observe the data on the bus bar rating plate!
Max. cable length	50 m, observe the cable cross-section and backup fuse!
Connection plug of the infeed	32 A blue CEKON 32 A plug, single-phase Cable cross-section: 3G6mm ²

16.6. Technical specifications – PSM 32 A, 3-phase

Model No. DK 7856.323

Bus bar	Aluminium, anodised
Height	For 1200 mm and 2000 mm enclosure height
Width	approx. 60 mm
Depth	approx. 55 mm
Weight	approx. 4 kg without packing, without modules
Potential equalisation	Yes
Earthing	Yes, separate housing earthing point (6.3 mm flat-pin connector), min. 2.5 mm ² cross-section
IP protection category	IP 20 to EN 60529
Temperature range	+5° C to 45° C +41° F to 113° F
Humidity range	5% to 95% relative humidity, non-condensing
Storage temperature range	-20° C to 60° C -4° F to 140° F
Power connection:	
Power supply	Power supply: 3~ 400 VAC + N + PE, max. current 3 x 32 A
Fusing	Back-up fuse, installed by the customer, 32 A per phase. Observe the data on the bus bar rating plate!
Max. cable length	50 m, observe the cable cross-section and backup fuse!
Connection plug of the infeed	3x32 A variant with red CEKON 32 A plug, 3-phase Cable Cross-section: 5G6mm ²

17. Assembly Instructions

The Rittal PSM system must be installed in an enclosure or case system, which also provides protection against external influences. The length of lines should not exceed the lengths specified in the technical data for preventing losses caused by unnecessary line lengths.

In addition, the allowed ambient temperature and humidity ranges must be complied with, just as the IP protection category as required for the specific application. The corresponding details are contained in Chapter 16. Compliance with a higher required IP protection category can be achieved by installation into an enclosure having the required protection category.

General notes to be observed when installing the PSM:



Warning!

When using accessories in connection with the Rittal PSM, the installation and operating instructions for the accessories and for the Rittal PSM must be observed.



Note!

The Rittal PSM can either be clipped into the vertical enclosure frame members of the Rittal flexRack(i), or else retrofitted to other enclosures using the corresponding Rittal mounting kit.



Note!

During installation the existing national and regional regulations of the country, in which the Rittal PSM is to be installed and operated, must be observed.



Electrical shock danger!

No objects must be inserted into the socket receptacles of the plug-in modules, nor into the connectors on the bus bar, as high electrical voltages may be present and may even result in the death of the persons involved.



Warning!

It is imperative to disconnect any device operated via the plug-in modules of Rittal PSM from the power supply, e.g. by pulling the mains connection cable, before commencing any maintenance or repair work.



Warning!

In the case of plug-in modules with built-in circuit breakers, it must be ensured that the module concerned is disconnected from the power supply before resetting the circuit breaker. This is achieved, for example, by pulling the mains connection cable.



Electrical shock danger!

Existing safety devices must not be made ineffective.



Electrical shock danger!

The Rittal PSM may only be operated with a PE connection. The PE connection is made at the terminal strip. The prerequisite here is that the connecting cable is connected with a PE terminal on the mains side.



Warning!

The voltage of the electrical connection must correspond to the nominal values specified on the rating plate and in Chapter 16.



Electrical shock danger!

Before commencing any work on the Rittal PSM, it must always be disconnected from the power supply and secured to prevent inadvertent reconnection.



Warning!

The Rittal PSM must not be modified in any way. The internal wiring and connections made by the manufacturer must not be altered!

**Warning!**

Cables are gathered and secured by fitting the enclosed cable brackets in the case or enclosure.

**Note!**

See Chapter 18.

**Warning!**

The strain relief for the connection cable must be made in the immediate vicinity of the connection plug of the PSM bus bar. If the strain relief bracket cannot be attached to the base frame, a suitable punched section must be installed for the mounting of the strain relief bracket.

**Note!**

The DK 7856.022/023 mounting kit is required to assemble the TS enclosure. The two mounting brackets are screwed to the end covers of the PSM. The two fastening holes in the brackets permit mounting at various depths. It must be ensured, however, that the PSM remains readily accessible for installed punched section.

Mounting in **flexRack(i)**, also see 17.1.

Mounting in **TS enclosures**, also see 17.2.

Mounting in **TE enclosures**, also see 17.3.

**Note!**

In the case of enclosures with a swing frame, mounting is only possible on the side of the enclosure where the swing frame hinges are fitted. Otherwise, the swing radius of the swing frame will be impaired.

**Note!**

In 600 mm wide enclosures, the rear 482.6 mm (19") level may be slightly obstructed by the PSM bus bar. This must be taken into account when assembling the enclosure.

17.1. Mounting in the Rittal flexRack(i)

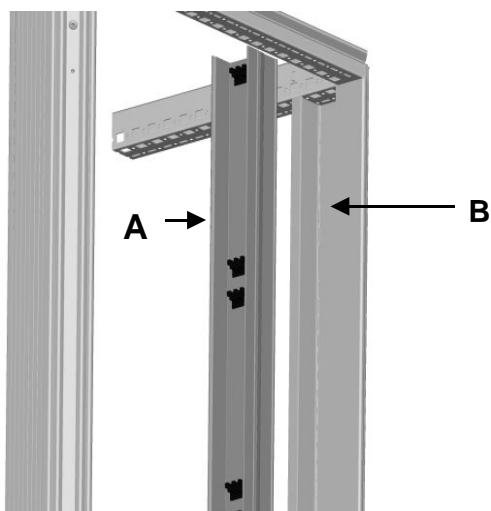


Fig.20: flexRack(i)

- With Rittal flexRack(i), the Rittal PSM can be clipped into the vertical frame members of the enclosure.
- To this end, the bus bar (A) is placed up against the side of the vertical section (B). Ensure that the bus bar sits in the side groove over the whole length. The two parts are then clipped together by pressing the other side of the bus bar to overcome the resistance of the mounting lugs.

This requires a certain amount of force.



Warning!

Once the two parts are locked together, they cannot be separated again without causing damage to one or both parts.



Note!

The 24 U bus bar should not be installed in the 42 U enclosures. The length of the bus bar can cause it to shift in the frame section.



Note!

View of the snapped-in bus bar with vertical enclosure frame.

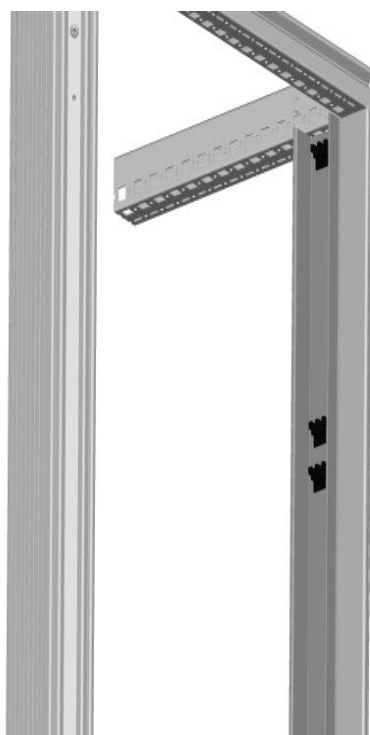


Fig. 21: flexRack(i) with installed PMS bus bar

17.2. Mounting in Rittal TS enclosures

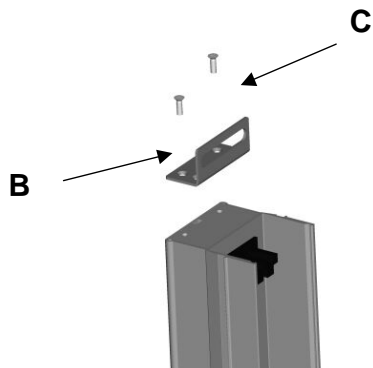


Fig. 22: Installation start

- The two mounting brackets (B) from the mounting kit must be used. These brackets are screwed to the plastic end covers of the bus bar with the enclosed screws (C).



Note!

The depth at which the bus bar is mounted in the enclosure can be varied by screwing the mounting brackets to the plastic covers the other way round.

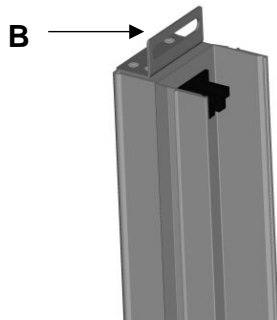


Fig. 23: PSM bus bar with mounting bracket

17.2.1. Mounting in Rittal TS enclosures, base and roof frames

- For retrofitting, the Rittal PSM can also be fastened to the base and roof frames (D).

The two mounting brackets (B) from the mounting kit must be used.

The 90°-angled brackets (B) are fastened to the end covers at the top and bottom of the bus bar. The bus bar (A) with the mounted brackets is then fastened to the appropriate roof and base frame elements (C) using the enclosed screws and washers (C).

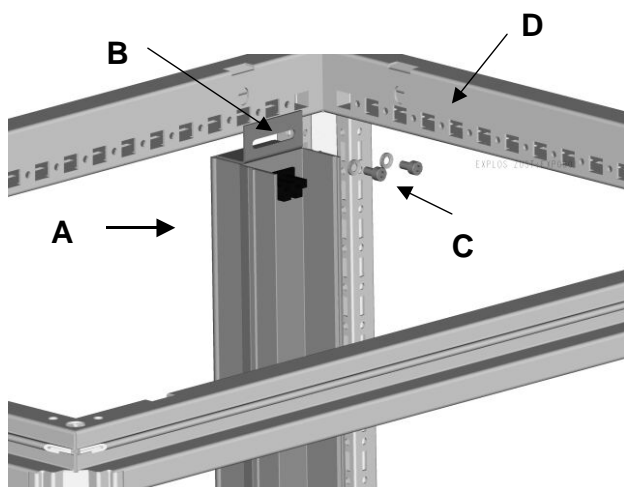


Fig. 24: Installation in the TS 8 enclosure

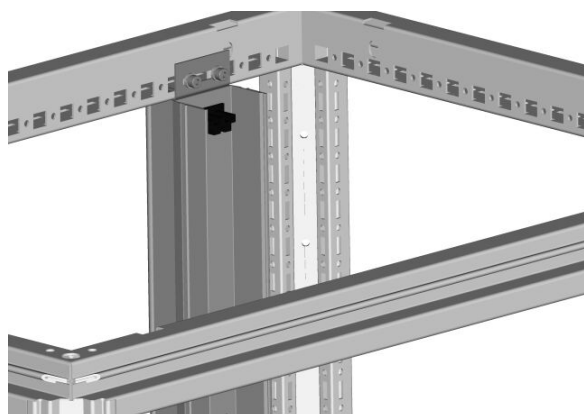


Fig. 25: Installed PSM bus bar in the TS 8 enclosure

17.2.2. Mounting in Rittal TS enclosures, punched mounting sections



Note!

If the punched mounting sections are used, the bus bars can also be fitted in enclosures of different heights. It is also possible to realise a combination of punched section and roof or base frame mounting.



Warning!

The strain relief for the connection cable must be made in the immediate vicinity of the connection plug of the PSM bus bar. If the strain relief bracket cannot be attached to the base frame, a suitable punched section must be installed for the mounting of the strain relief bracket.

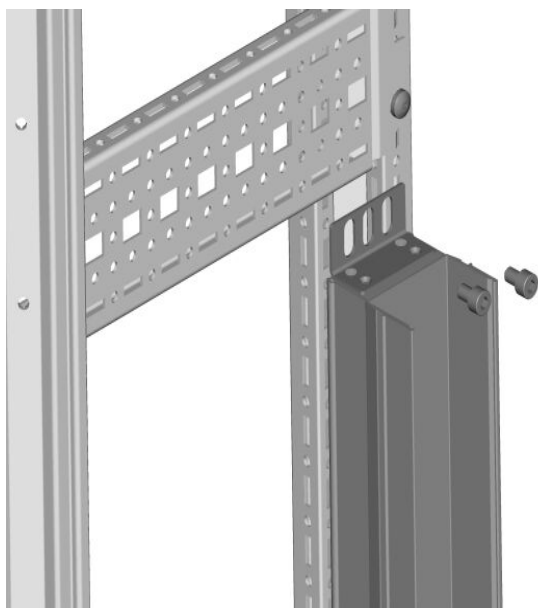


Fig. 26: Installation on punched mounting section

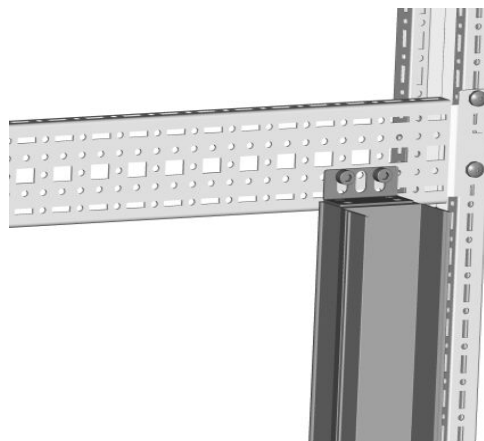


Fig. 27: Installation on punched mounting section

To accommodate varying heights of enclosure or Rittal PSM, another mounting variant is possible:

To do this, the punched mounting section must be fitted in the enclosure at the height of the bus bar end covers.

When doing so, observe the assembly instructions of the enclosure type concerned.

Here, too, the mounting brackets are fastened to the two end covers of the bus bar.

The bus bar can then be mounted on the punched sections.

17.3. Mounting in Rittal TE enclosures

The PSM adaptor DK7000.684 is required for installation in the Rittal TE enclosure.



Note!

The associated assembly manual accompanies the PSM adaptor DK 7000.684.

17.4. Mounting the plug-in modules



Note!

It is only possible to use original Rittal plug-in modules with Rittal PSM. The use of any other parts will render all warranty claims void.

Depending on the type, a maximum of seven modules or four modules can be inserted in a 2000 mm or 1200 mm, respectively.

It is not necessary to mount always the full possible number of modules, as the bus bar is designed with shock-hazard protection.



Note!

Important: to ensure a redundant configuration for DK 7856.010, DK 7856.020, DK 7856.015, DK 7856.016, all infeeds must be connected. For 7856.321, the backup fusing and the load distribution must be taken into consideration. See Chapter 18, and Sections 5.6, 7.5, 8.8, 9.6, 10.5.

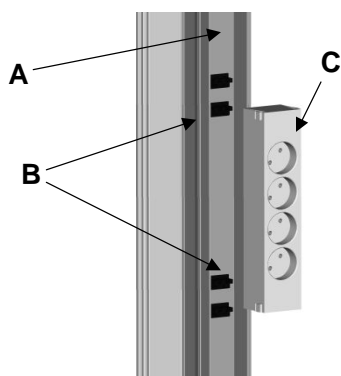


Fig. 28: Mounting the plug-in modules

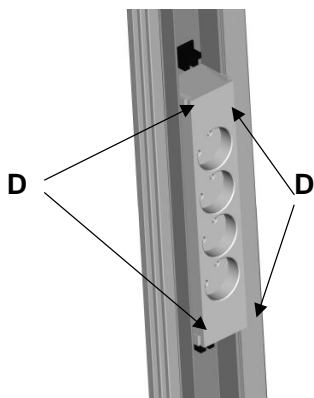


Fig. 29: Installed plug-in module

- The plug-in module (C) is placed centred on the two connectors (B) and locked into place with a gentle push.
- If a plug-in module needs to be removed, release all four retaining lugs (D) at the same time and carefully withdraw the module.



Warning!

Caution: when consumers are connected to a module, the power to all these consumers will be lost if the plug-in module is unlocked.



Warning!

When the modules (C) are mounted, there must be no consumers in the power sockets. First, mount the modules on the bus bar, and then connect the corresponding consumers.



Warning!

To remove a plug-in module (C), you should first remove all consumers connected to the module concerned.



Note!

The plug-in modules (C) can also be mounted and removed while the bus bar (A) is in operation.



Note!

The module (C) is mounted correctly, if all four retaining lugs (D) at the end faces have locked into the bus bar.



Note!

When doing so, ensure that the module is not tilted.



Note!

If the modules are equipped with a miniature circuit breaker, it can be reset after being activated by pressing the yellow pin.



Warning!

A possible short-circuit must be corrected beforehand.

17.5. Infeed strain relief (suggestion)

(For model number DK 7856.010, .020, .016)

- The strain relief for the connection cable must be realised using the provided bracket (C). To do this, attach the bracket (C) with the supplied screws (D) to the base frame (E).
- The connecting cable (F) is then fastened to the cable bracket (C) with the enclosed cable ties (G). This configuration provides for adequate strain relief.

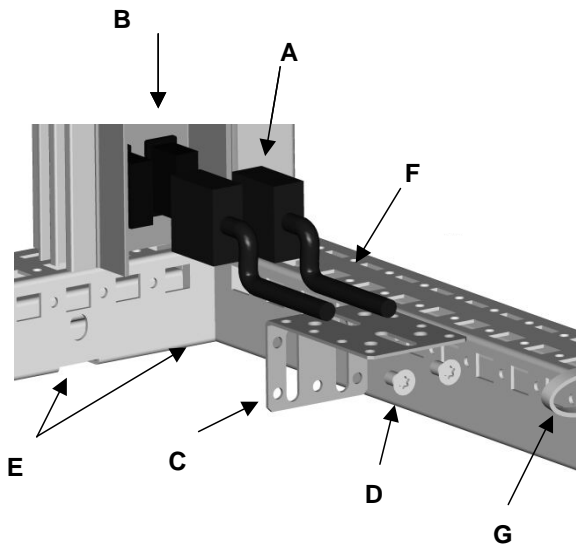


Fig. 30: Example for the installation of a strain relief

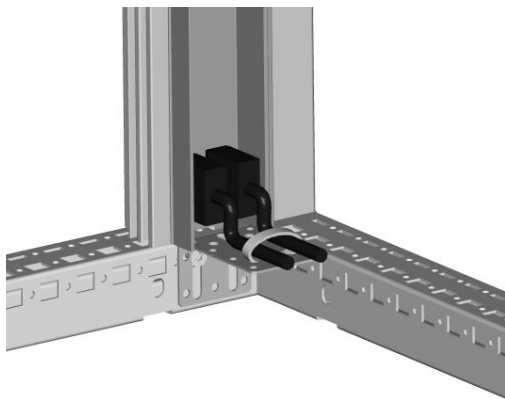


Fig. 31: Example for the installation of a strain relief



Note!

The mounting of the strain relief may vary according to the specific installation situation in the enclosure.



Warning!

The strain relief for the connection cable must be made in the immediate vicinity of the connection plug of the PSM bus bar. If the strain relief bracket cannot be attached to the base frame, a suitable punched section must be installed for the mounting of the strain relief bracket.



Note!

Where gland plates are fitted, the cable can also be tied directly to the base frame.

17.6. Alternative possibilities for mounting of the cable clamp bracket

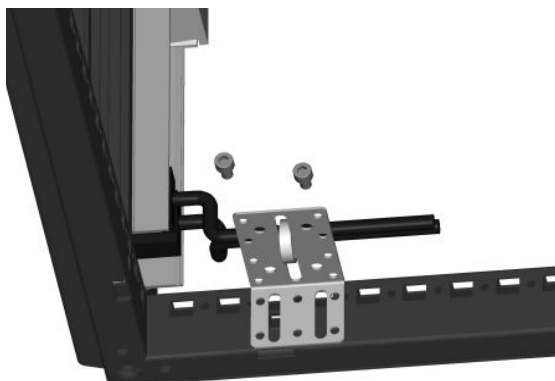


Fig.32 4: Side view 1, inside from below

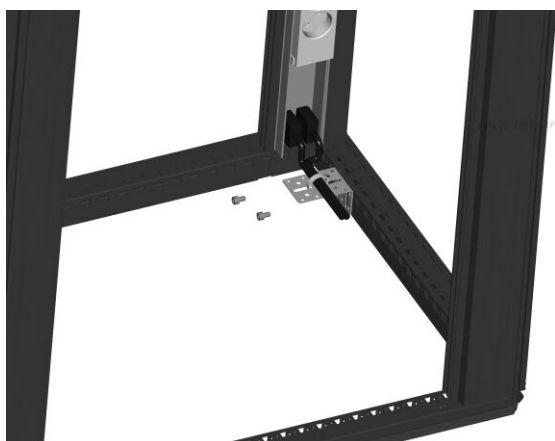


Fig. 33: Top view 1, outside from above

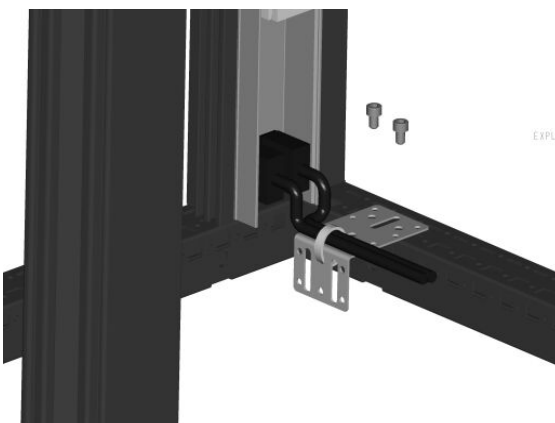


Fig. 34: Side view 2, from inside

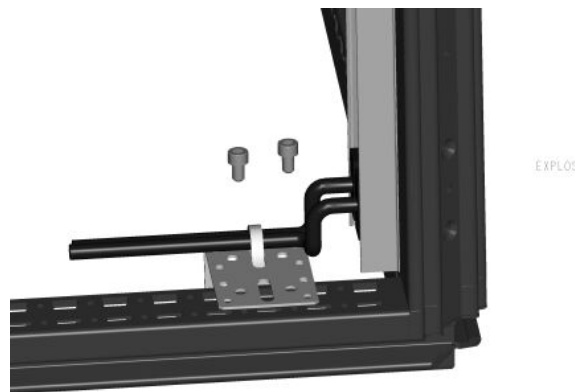


Fig.35: Side view 2, from outside

17.7. Alternative possibilities for mounting of the cable clamp bracket

For the PSM bus bars DK 7856.321 and DK 7856.323, the strain relief on the bus bar is made using a PG screwed cable gland. It may be necessary to use cable ties to attach the infeed line(s) to a mounting bracket.

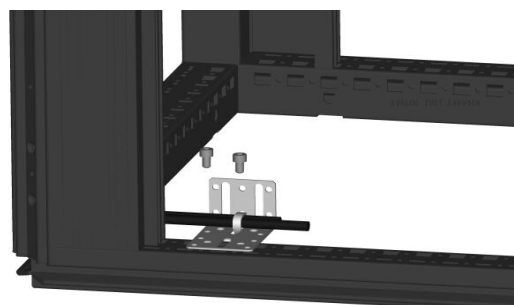


Fig.36: Side view 3, from outside

18. Electrical Connection of the Bus bar

The 7856.010 and 7856.020 bus bars can be used to provide a redundant power supply system for IT enclosures. To achieve this, the Rittal PSM has two separate infeed possibilities: infeed I, infeed II (see Section 5.6). For both infeeds, the supplied accessories contain the required connection plugs to attach a fixed connection cable. As an alternative, you can use a preassembled connection lead with CEKON plug, see Chapter 15. This plug connector is described in Section 18.4. It is used to connect a permanently installed connection cable to the bus bar.

Within the bus bar, the two three-phase circuits are completely independent of each other, i.e. they each make available L1, L2, L3, N and PE. The protective conductors of the two circuits are placed together in the bus bar and connected to the bus bar housing.

The Rittal PSM Plus provides four separate infeed possibilities: infeed 1 to infeed 4 (see Section 7.5).

The Rittal Metered PSM provides two separate infeed possibilities: infeed 1 to infeed 2 (see Section 8.8).

Rittal PSM Version 32 A, single-phase, provides one infeed possibility. Each module slot is protected with its own circuit-breaker (see Section 9.6). Given the appropriate selection of the backup fusing, load distribution and group formation of loads, a redundancy can be provided.

Rittal PSM Version 32 A, three-phase, provides an infeed possibility separated into two circuits using two circuit-breakers (see Section 9.6). The modules do not need to be turned.

18.1. Technical data of the infeeds



Note!

Note that the product uses a multi-infeed bus bar, DK 7856.005 DK 7856.007, DK 7856.321 and DK 7856.323 are exceptions.



Warning!

If the bus bar is connected via the CEKON/CEE connecting cable, the corresponding CEKON/CEE supply socket must be as close as possible to the bus bar.



Warning!

If the bus bar is not connected via a CEKON/CEE connector, but is instead installed permanently, a suitable mains power disconnection device must be provided.



Risk of death!

The bus bar and the plug-in modules must not be opened.



Risk of death!

If, for some reason, work needs to be performed on the bus bar, all circuits must be disconnected from the mains and protected against being switched on again.



Risk of death!

A clear label must be provided at the disconnecting device of both power circuits, describing how the equipment is to be properly disconnected from the power supply.



Warning!

The cable strain relief bracket enclosed in the package should be used at the infeed.

Electrical Connection of the Bus bar

EN



Warning!

Observe all warnings and rating plates attached to the bus bar!



Danger!

An electrical test must be performed after the completion of the assembly, installation and maintenance work!



All protective conductor terminals and the voltages at all connection plugs, and at each individual module slot must be checked.



Warning!

When connecting the bus bar, ensure that an appropriate fuse is provided. Observe the regulations of the local power supply company, as well as the rating plate on the bus bar.

18.2. Earthing



Warning!

The bus bar possesses a housing earthing point in the area of the infeed marked with the symbol:



A conductive connection must be made from this earthing point to the enclosure frame.

Sep. housing earthing point min. cross-section 2.5 mm²

The PE conductor of both power circuits is brought to a common housing potential in the bus bar.



Note!

The connection of a separate protective conductor is not required for DK 7856.321 and DK 7856.323.

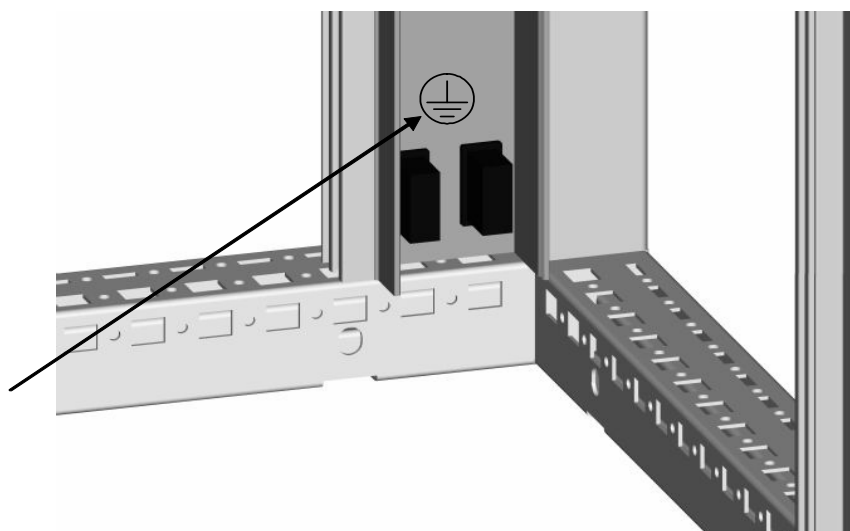


Fig. 37: Separate earthing point in the vicinity of the infeed for bus bars with plug-in infeed

18.3. Infeed connection plug, data and assignment

1-conductor female multi-point conductor with side-mounted locking, 5-pole for insertion in the base terminal block.

The following conductors can be used:

- Single-wire
- Multi-wire
- Fine-wire with tinned single cores
- Max. cross-section 4 mm²
- Max. cross-section 12 AWG
- Bared length 8 mm
- Bared length 0.33 inch

Compacted strands with wire end ferrule¹⁾ or pin-type cable socket (crimped gas-tight).



Note!

¹⁾ When wire end ferrules are used, the next-smaller cross-section must be chosen.



Danger!

The connection plug does not serve as an on-load isolator!

18.4. Terminal assignment

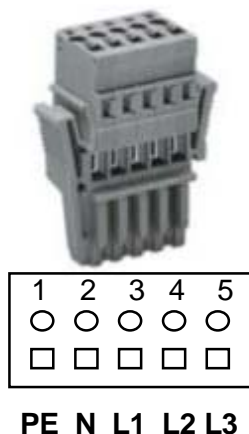


Fig. 38: Terminal assignment



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Coffrets et armoires électriques
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Apparatskåpssystem
 Armadi per quadri di comando
 Sistemas de armarios
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Stromverteilung
Power Distribution
Distribution de courant
 Stroomverdeling
 Strömfördelning
Distribuzione di corrente
Distribución de corriente
分電・配電システム



Elektronik-Aufbau-Systeme
Electronic Packaging
 Electronique
Electronic Packaging Systems
Electronic Packaging
 Contenitori per elettronica
 Sistemas para la electrónica
エレクトロニクス パッケージシステム



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System Climate Control
 Climatisation
 Systemklimatisering
 Systemklimatisering
Soluzioni di climatizzazione
 Climatización de sistemas
温度管理システム



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Solutions IT
 IT-Solutions
IT-lösningar
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 Communication Systems
 Armoires outdoor
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